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Fall Protection in California Construction: Trigger Heights and Citations

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Falls are the leading cause of death in California construction, and fall protection is the most frequently cited category on the construction inspections I review. Most contractors know the rule exists. What they get wrong is the trigger height, which is not the same for every activity in Title 8, and the assumption that a harness on a worker is a fall arrest system. Here is what the Construction Safety Orders actually require and what a Cal/OSHA compliance officer looks at on your site.

The Trigger Heights, and Why There Is More Than One

Federal OSHA uses a single 6-foot trigger for construction. California does not. Title 8 spreads fall protection across several sections, each with its own height. The ones that come up most often:

- **Title 8, Section 1621, Railings.** Standard railings must be provided along all unprotected and open sides, edges, and ends of scaffolds, runways, ramps, platforms, wall openings, and other elevations 7 1/2 feet or more above the ground, floor, or level underneath. Toeboards are required on railed scaffolds where people work or pass underneath, and at interior floor, roof, and shaft openings.
- **Section 1670, Personal Fall Arrest Systems.** Approved personal fall protection is required where employees are exposed to falls of more than 7 1/2 feet from the perimeter of a structure, unprotected sides and edges, leading edges, through shaftways and openings, sloped roof surfaces steeper than 7:12, and similar locations.
- **Section 1669.** For work on thrustouts and similar locations such as trusses, beams, purlins, or plates of 4-inch nominal width or greater, at elevations exceeding 15 feet, employees must use personal fall protection under Section 1670 when temporary guardrails are impracticable, or safety nets when that is impractical. A narrow exception exists for short-duration, non-repetitive work under immediate competent supervision.
- **Section 1671, Safety Nets.** Required where the elevation is 25 feet or more above the ground, water surface, or continuous floor level below and other conventional fall protection is impractical.
- **Section 1716.2, Residential Framing.** Fall protection is required at 6 feet or more when installing top plates, joists, rafters, and trusses; when laying out and building framed walls; and when installing starter board, roof sheathing, and fascia. A fall protection plan with safety monitors is permitted for interior framing between 6 and 15 feet only if the bracing, spacing, and distance-from-edge conditions in the section are met.
- **Section 1730, Roofing Operations.** On roofs more than 20 feet above the ground, controls vary by slope: warning lines no closer than 5 feet from the edge on low slopes, parapets at least 24 inches high, roof jack systems, and safety lines with roof jacks on slopes steeper than 7:12.



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- **Section 1632, Floor, Roof, and Wall Openings.** Covers must support the greater of 400 pounds or twice the load that may be imposed on any one square foot, be secured against displacement, and carry the legible sign "Opening—Do Not Remove." Wall openings must be guarded where there is a drop of more than 4 feet and the bottom of the opening is less than 3 feet above the working surface.

The practical takeaway: 7 1/2 feet is the general trigger for guardrails and personal fall arrest on most commercial work, 6 feet is the trigger in residential framing, and roofing has its own 20-foot rule. A superintendent who applies one number to every trade will be wrong somewhere.

Guardrails First

The Construction Safety Orders favor passive protection. A guardrail protects everyone without training, which is why inspectors look for it before they ask about harnesses. Section 1620 sets the specifications: a top rail not less than 42 inches or more than 45 inches above the walking surface, a midrail halfway between the top rail and the floor where there is no wall at least 21 inches high, and a top rail able to withstand at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction. Midrails must resist at least 150 pounds, and steel or plastic banding is expressly prohibited as a rail. In my experience, guardrail citations are rarely about missing rails. They are about a midrail removed to pass material and never replaced, or a rail that flexes when leaned on.

Personal Fall Arrest: The System, Not the Harness

Section 1670 treats personal fall arrest as a system of anchorage, connectors, and body harness. The system must be rigged so that an employee can neither free fall more than 6 feet nor contact any lower level, and it must limit the maximum arresting force on the employee to 1,800 pounds when used with a body harness. Anchorages must support at least 5,000 pounds per employee attached, or be designed, installed, and used as part of a complete system that maintains a safety factor of at least two. Body belts have not been permitted in a personal fall arrest system since January 1, 1998. The system must be inspected prior to each use for wear, damage, and other deterioration, with defective components removed from service. Positioning devices must be rigged so an employee cannot free fall more than 2 feet.

Two findings account for most of the personal fall arrest citations I see: an anchorage that cannot support the load, such as a lanyard clipped to a guardrail, a conduit, or a truss chord no one calculated; and a worker wearing a harness that is not connected to anything. A harness on a worker who is not tied off is not fall protection, and inspectors photograph it from the street.

Section 1670 also requires the employer to provide for prompt rescue of employees in the event of a fall, or to assure that employees are able to rescue themselves. A worker suspended in a harness is in a time-sensitive medical situation. If your rescue plan is to call the fire department, know how long they take to arrive and whether they can reach the worker.



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When a Fall Protection Plan Is Allowed

Section 1671.1 permits a written fall protection plan in place of conventional fall protection only when the employer can show that guardrails, personal fall arrest systems, or safety nets are infeasible or would create a greater hazard. The standard presumes conventional protection is feasible and puts the burden on the employer to show otherwise. The plan must be prepared by a qualified person and developed specifically for the site; it must document why each conventional system is infeasible or more hazardous, discuss the alternative measures such as scaffolds, ladders, or vehicle-mounted platforms to be used instead, identify each controlled access zone, and list the employees authorized to work there. A copy must be kept at the job site, a competent person must supervise implementation, and after any fall or serious incident the employer must investigate and revise the plan.

Where no other alternative exists, the plan may include a safety monitoring system under Section 1671.2, with control lines not less than 6 feet nor more than 25 feet from the unprotected or leading edge and a competent person as monitor in visual contact with the workers. A fall protection plan is a documented engineering judgment, not a way around renting guardrail, and an inspector will test whether the infeasibility finding is real.

What Inspectors Cite Most

- Employees at or above the trigger height with no guardrail, no tie-off, and no plan.
- Harnesses worn but not connected, or connected to an inadequate anchorage.
- Unguarded floor openings and skylights, or covers that are unsecured or unmarked.
- Guardrails removed for material handling and not replaced.
- Residential framers on top plates or trusses above 6 feet with no protection and no written plan on site.
- Roofers without warning lines or parapets on low-slope roofs above 20 feet.
- No documented training on the fall protection systems in use, which adds an Injury and Illness Prevention Program citation.

Penalties for a serious violation can run well into five figures, and higher for willful or repeat violations. Fall protection violations are usually classified as serious because the likely outcome is death.

What to Do This Week

- Walk the site and list every location where employees work at 6 feet or more; note which trigger height and section applies.
- Check every guardrail for height, midrail, toeboard, and rigidity; remove any banding used as a rail.
- Inspect every harness, lanyard, and self-retracting device and remove damaged gear from service.
- Document every anchorage point and who determined it can support 5,000 pounds per employee.
- Guard or cover every floor and roof opening, secure the covers, and stencil them.



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- Write down the rescue plan for a suspended worker and confirm the equipment and people are available.
 - If anyone is relying on a fall protection plan, confirm it is written, site-specific, prepared by a qualified person, and on the job.

If you have received a fall protection citation, or want your site evaluated before an inspector does it, McNeil Safety Consulting can help. Learn more about our [Cal/OSHA violation defense services](#) or call **(626) 546-9384**.

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